Diagnosis

General Recommendations for Medical Care

- Epidemiologic considerations
  - Season of year
  - Travel history
- Diagnosis
- Treatment
- Follow-up

Travel History

- Important for assessment of symptomatic patients in non-endemic areas
- Determine whether the patient travelled to a dengue-endemic area
- Determine when the travel occurred
  - If the patient developed fever more than 2 weeks after travel, eliminate dengue from the differential diagnosis

Differential Diagnosis of Dengue

- Influenza
- Measles
- Rubella
- Malaria
- Typhoid fever
- Leptospirosis
- Meningococcemia
- Rickettsial infections
- Bacterial sepsis
- Other viral hemorrhagic fevers

Clinical Evaluation in Dengue Fever

- Blood pressure
- Evidence of bleeding in skin or other sites
- Hydration status
- Evidence of increased vascular permeability-- pleural effusions, ascites
- Tourniquet test

Petechiae

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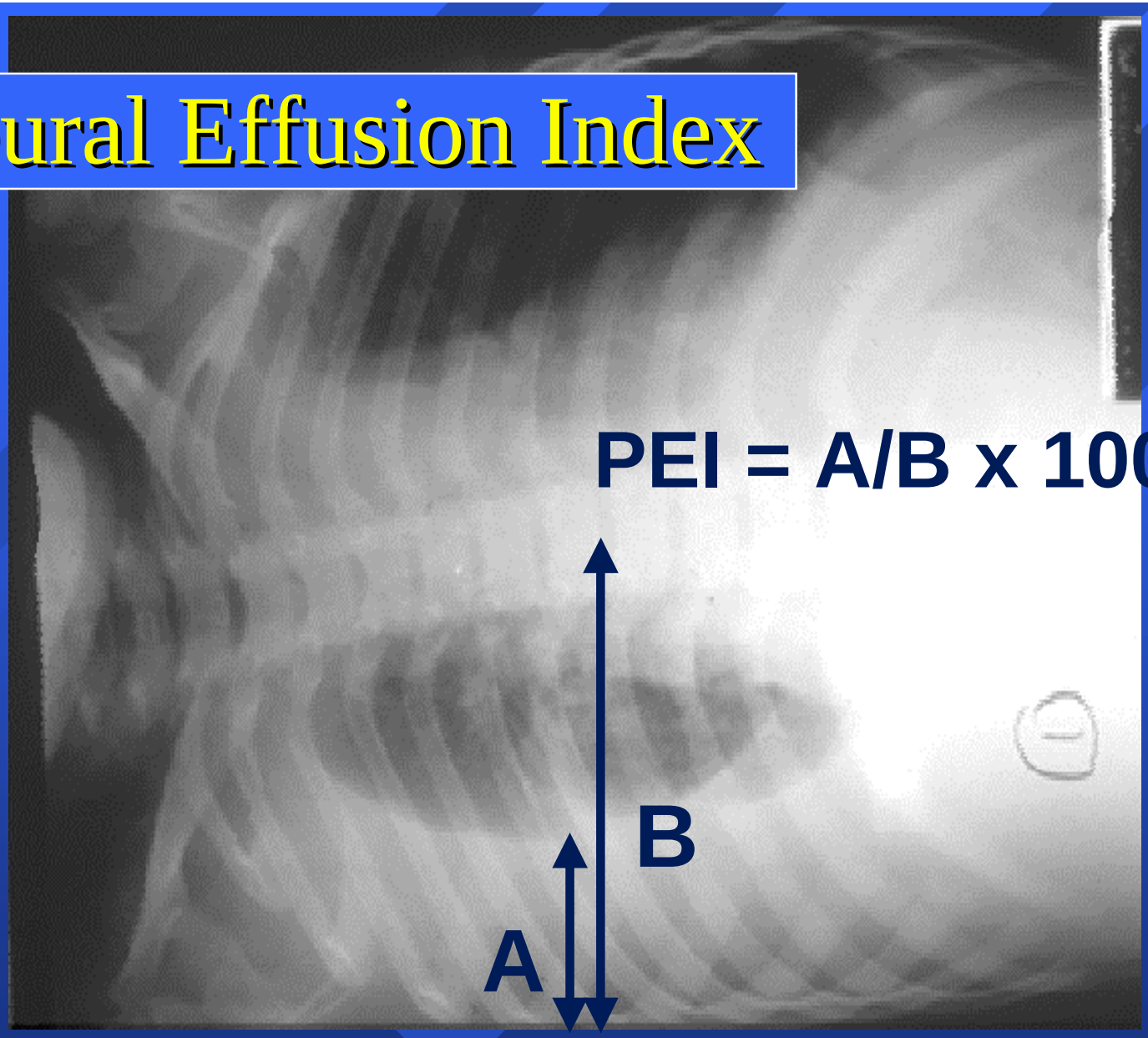
Pleural Effusion Index



Vaughn DW, Green S, Kalayanarooj S, et al. Dengue in the early febrile phase: viremia and antibody responses. J Infect Dis 1997; 176:322-30.

Tourniquet Test

- Inflate blood pressure cuff to a point midway between systolic and diastolic pressure for 5 minutes
- Positive test: 20 or more petechiae per 1 inch^2 (6.25 cm^2)

Pan American Health Organization: Dengue and Dengue Hemorrhagic Fever: Guidelines for Prevention and Control. PAHO: Washington, D.C., 1994: 12.

Positive Tourniquet Test

Laboratory Tests in Dengue Fever

- Clinical laboratory tests
  - CBC--WBC, platelets, hematocrit
  - Albumin
  - Liver function tests
  - Urine--check for microscopic hematuria
- Dengue-specific tests
  - Virus isolation
  - Serology

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Laboratory Methods for Dengue Diagnosis, CDC Dengue Branch

- Virus isolation to determine serotype of the infecting virus
- IgM ELISA test for serologic diagnosis

Virus Isolation: Cell Culture

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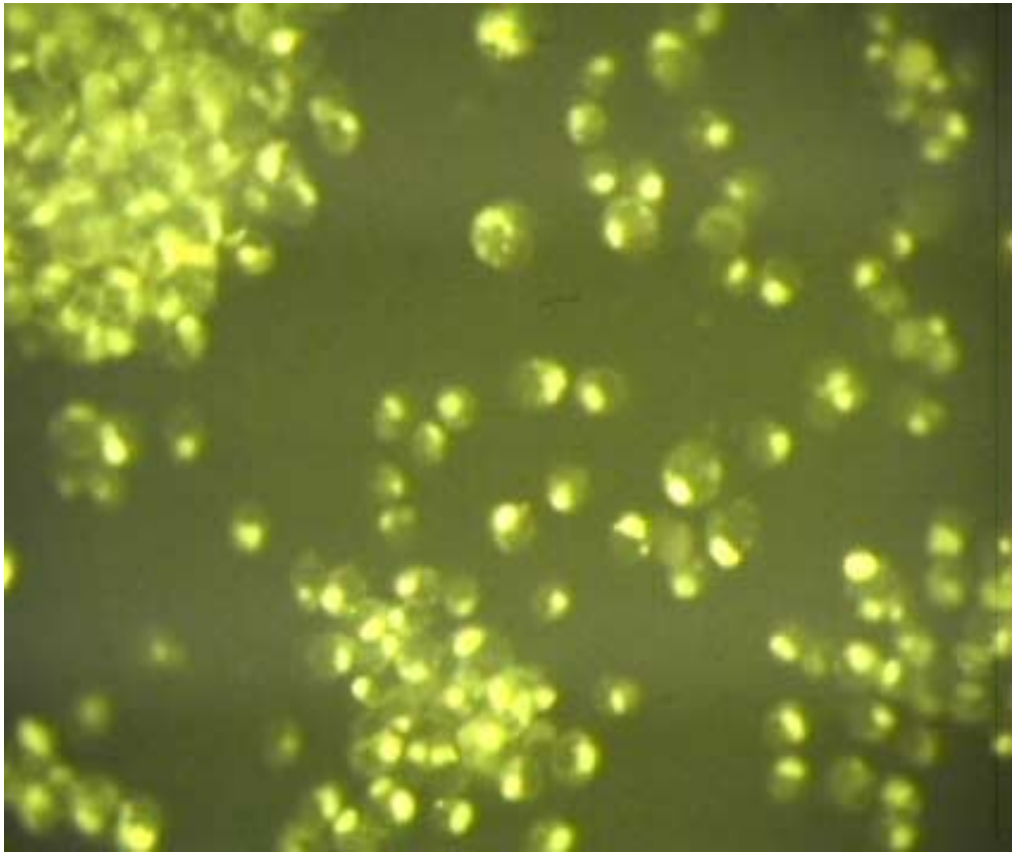
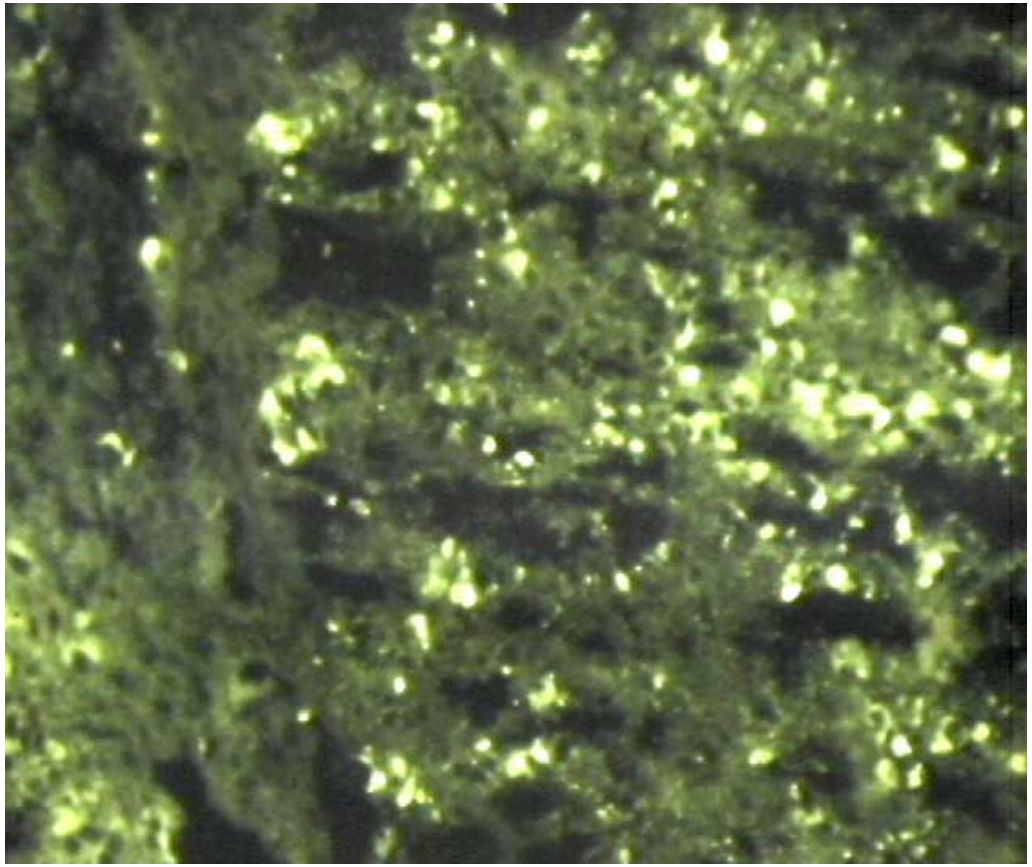


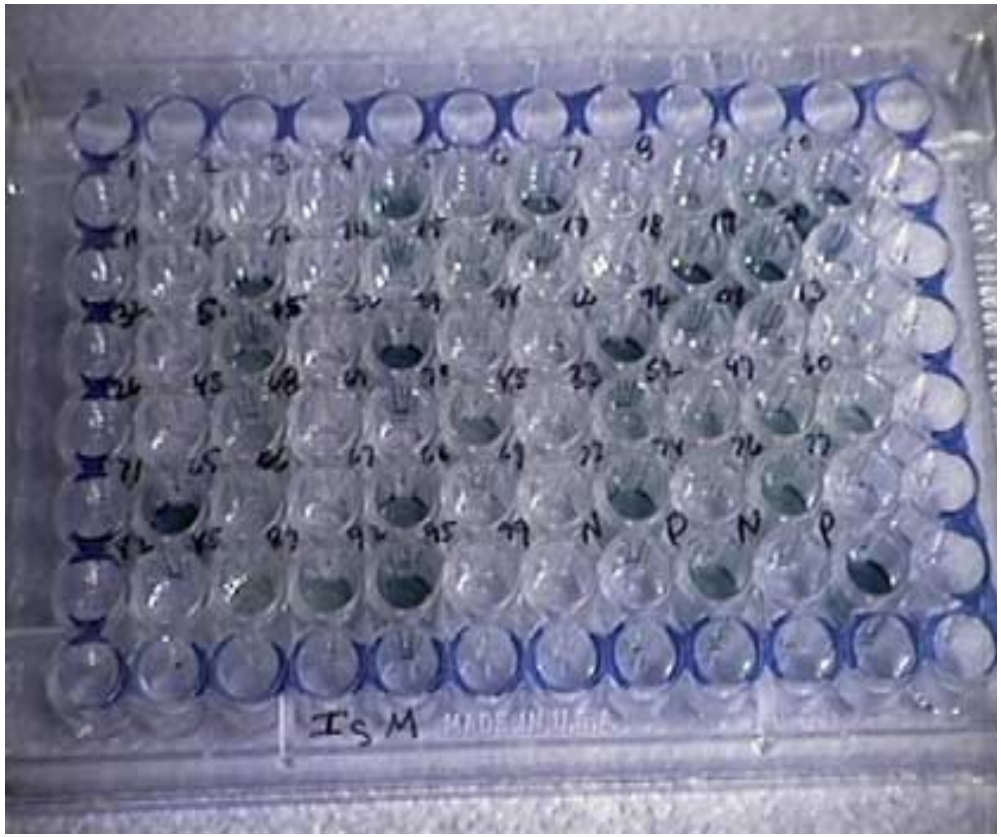
Virus Isolation: Mosquito Inoculation

Virus Isolation: Fluorescent Antibody Test



ELISA Test for Serologic Diagnosis

ELISA Plate



Collection and Processing of Samples for Laboratory Diagnosis

Type of Specimen	Time of Collection	Type of Analysis
Acute-phase blood (0-5 days after onset)	When patient presents; collect second sample during convalescence	Virus isolation and/or serology
Convalescent-phase blood (≥ 6 days after onset)	Between days 6 and 21 after onset	Serology

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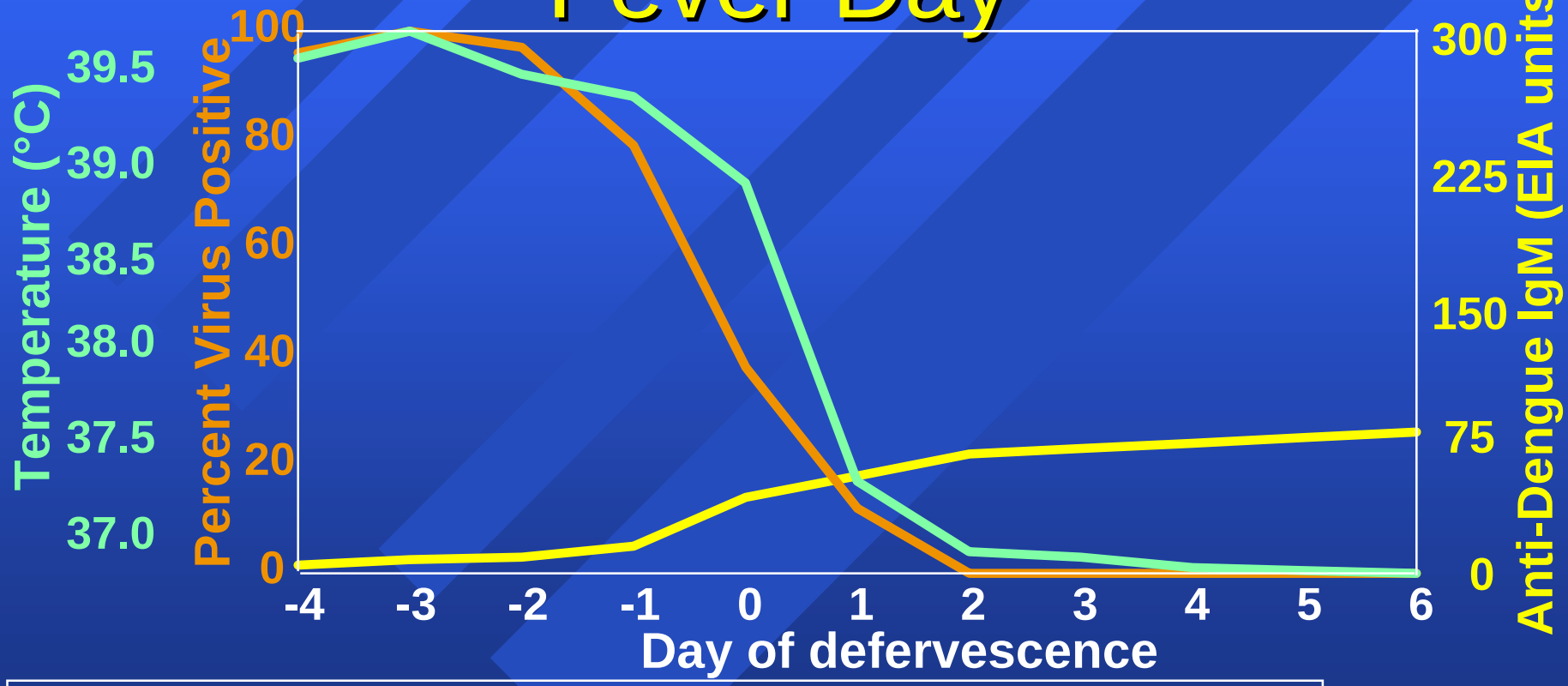
Procedures for Diagnosing a Dengue Fatality

- Inform the laboratory processing the samples that the case was fatal
- Obtain a blood sample to attempt virus isolation and antibody detection
- Obtain tissue samples for separate tests of virus isolation and immunohistochemistry

Temperature, Virus Positivity and Anti-Dengue IgM, by Fever Day



Adapted from Figure 1 in Vaughn et al., J Infect Dis, 1997; 176:322-30.

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